

Postdoctoral Appointee

Computational Solid Mechanics

Location: Albuquerque, NM – Full-time

What Your Job Will Be Like

The Materials and Failure Modeling Department is seeking a highly motivated individual to join our diverse and inclusive team and contribute to ongoing computational solid mechanics research, development, and analysis.

On any given day, you will have the opportunity to:

- Apply the principles of solid mechanics within the framework of the finite element method to support the research and development of computational mechanics tools for fracture and failure.
- Use state-of-the-art finite element codes and world class computational resources to support the design, development, and qualification of complex engineering materials and systems.
- Partner with in-house code development teams to develop, implement, and use state-of-the-art computational mechanics tools.
- Partner with experimentalists and other computational mechanicians to inform and improve existing computational mechanics methods and models.
- Contribute to a wide variety of emerging research and development efforts at Sandia.
- Develop a robust research portfolio through peer-reviewed journal publications, conference presentations, and participation in professional societies.

Please include a complete curriculum vitae with your application.

Postdoctoral Appointee Salary is \$98,500.00/annual for NM Location.

Due to the nature of the work, the selected applicant must be able to work onsite.

Qualifications We Require

- PhD in Mechanical Engineering, Applied Mechanics, Aerospace Engineering, Civil Engineering, or a related field
- Background in the foundations of solid mechanics, including strength of materials, continuum mechanics, mechanics of materials, and/or applied mathematics
- Experience with programming languages such as C, C++, Julia, Python, and/or Rust
- Strong communication skills as evidenced by peer-reviewed publications and/or external presentations at appropriate scientific conferences
- Ability to obtain and maintain a DOE Q clearance

Qualifications We Desire

- Experience performing finite element calculations and/or with finite element theories
- Experience with cohesive surface elements and/or related finite elements
- Experience with constitutive model development and thermodynamic theory
- Experience with software development and modern software practices
- Experience with fracture mechanics and related computational methods

About Our Team

The Materials and Failure Modeling Department performs material mechanics R&D, develops advanced engineering models, and deploys state-of-the-art computational capabilities to enable physically credible prediction of material behavior and failure in support of Sandia's mission. Core capabilities developed and maintained by the department include adaptive material and failure models, robust computational material libraries covering events from aging to shock physics, effective model calibration methodologies, and quantification of margin and uncertainty of material models.

Apply online at:
sandia.gov/careers
Job #: 693932

About Sandia:

Our culture values work-life balance; we offer programs such as flexible work schedules with alternate Fridays off, on-site fitness facilities, and three weeks of vacation. Sandia provides employees with a comprehensive benefits package that includes medical, dental, vision, and a 401(k) with company-match.

Sandia National Laboratories is the nation's premier science and engineering lab for national security and technology innovation. We are a world-class team of scientists, engineers, technologists, post docs, and visiting researchers all focused on cutting-edge technology, ranging from homeland defense, global security, biotechnology, and environmental preservation to energy and combustion research, computer security, and nuclear defense.

*World-changing technologies.
Life-changing careers.*

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